

CENTRAL INTELLIGENCE AGENCY  
**INFORMATION REPORT**

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<b>COUNTRY</b>	Czechoslovakia	<b>REPORT</b>	<input type="text"/>	25X1
<b>SUBJECT</b>	Production of a New-Type Propeller at Aero National Enterprise in Prague- Vysocany	<b>DATE DISTR.</b>	13 April 1955	
<b>DATE OF INFO.</b>	<input type="text"/>	<b>NO. OF PAGES</b>	3	
<b>PLACE ACQUIRED</b>	<input type="text"/>	<b>REFERENCE NO.</b>	RD	25X1
		<b>REFERENCES</b>		

This is UNEVALUATED Information

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.  
 THE APPRAISAL OF CONTENT IS TENTATIVE.  
 (FOR KEY SEE REVERSE)

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1. Aero National Enterprise in Prague-Vysocany (Plant No. AP-1103-B) has been producing propellers of a new type since the summer of 1953. The daily production varies from 20 to 23 propellers with a labor force of about 210 workers. The propellers are tested in a wind tunnel belonging to the plant; it has an inside diameter of 3,600 millimeters.
2. The propellers are constructed entirely of silumin, with an integral gradient and wing profile. The profile of this new propeller, compared to that of standard construction, has the advantage of reducing to a minimum the negative load. The air flows very lightly along the axial direction of the propeller, with the result that the eccentric movement of the air itself is almost completely eliminated.
3. The propeller has two blades. Each blade is cast under a pressure of 45 kilograms per square centimeter and is kept in an annealing oven for a long period. The reduction of the casting temperature to room temperature lasts generally from 36 to 48 hours. Then the blades are carefully checked before undergoing additional processes.
4. The rough grinding and finishing is done automatically by means of milling machines which work in accordance with a steel model, with a precision up to one-tenth of a millimeter. This makes it possible to turn out two blades of the same propeller which are equal in form as well as in weight. The two blades are then fitted into a special propeller hub. The weight difference between the two blades has a tolerance of 0.05 grams.
5. The surfaces of the propeller blades are then cleaned and polished, and the propeller is tested in the wind tunnel. The annotations regarding the wind-tunnel tests are then engraved on the propeller hub and the entire propeller assembly is duly marked by the final testing commission.

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(NOTE: Washington distribution indicated by "X"; Field distribution by "#")

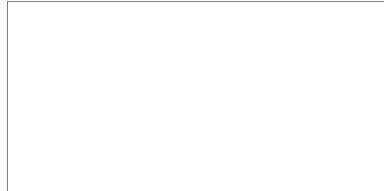
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6. Measurement of the propellers is as follows: Diameter of the circle formed by the rotating blades of the propeller: 3,120 millimeters. Maximum thickness of the blades at a distance of 270 millimeters from the circle described above: 385 millimeters. Average inclination of the positive surface (lower) at a distance of 150 millimeters from the tip of the blade: angle - (alpha) of  $13^{\circ} 30'$ . Average inclination of the positive surface (lower) at a distance of 525 millimeters from the axle of the propeller hub: angle - (alpha 1) of  $53^{\circ}$ .



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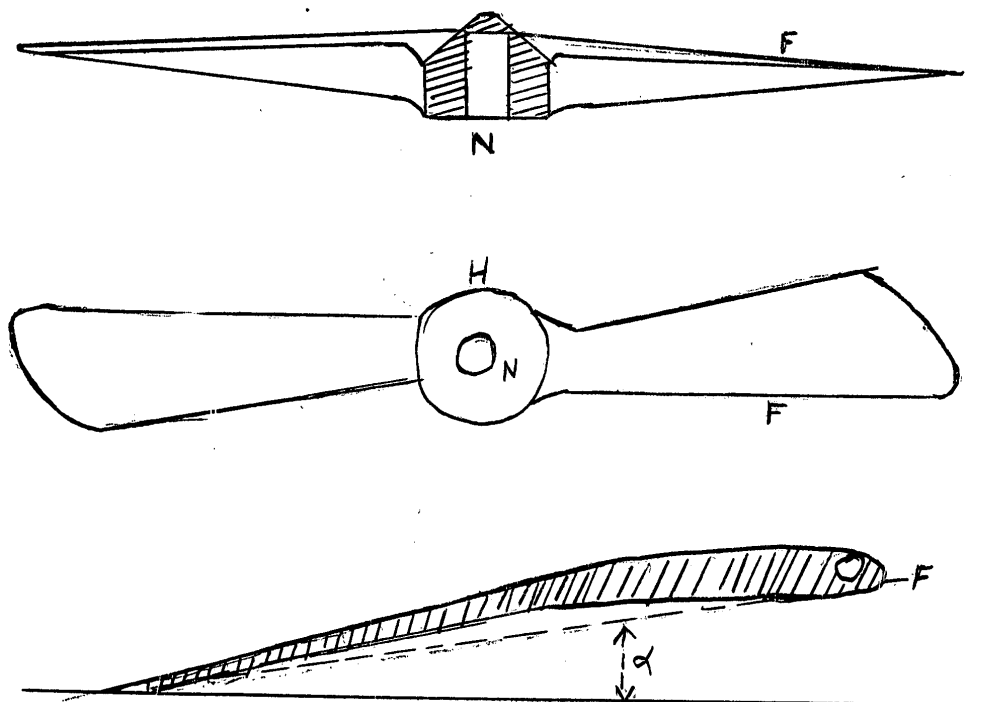
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Annex: Sketch of Integral Silumin Propeller

Scale: 1:17



F - Propeller blades of silumin  
H - Propeller hub  
N - Housing of driving shaft

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